

# Kentucky CIMS

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Kentucky Freight Conference  
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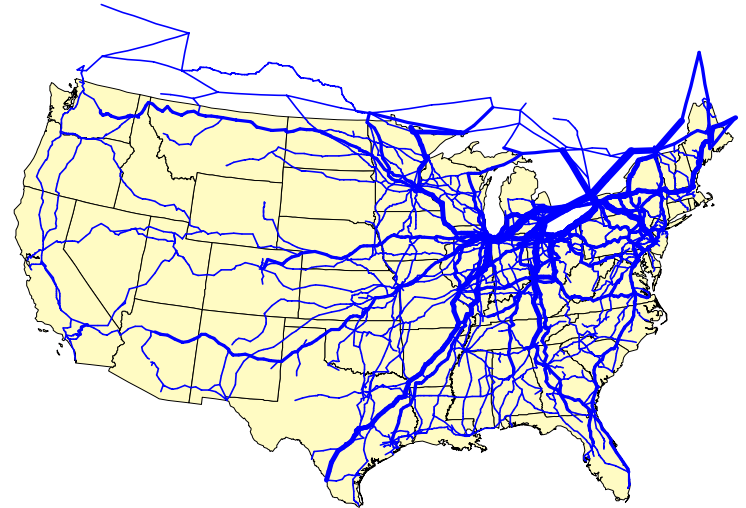
# Presentation Overview

- Purpose of KY CIMS
- KY CIMS data sources
- KY CIMS functionality
- KY CIMS next generation



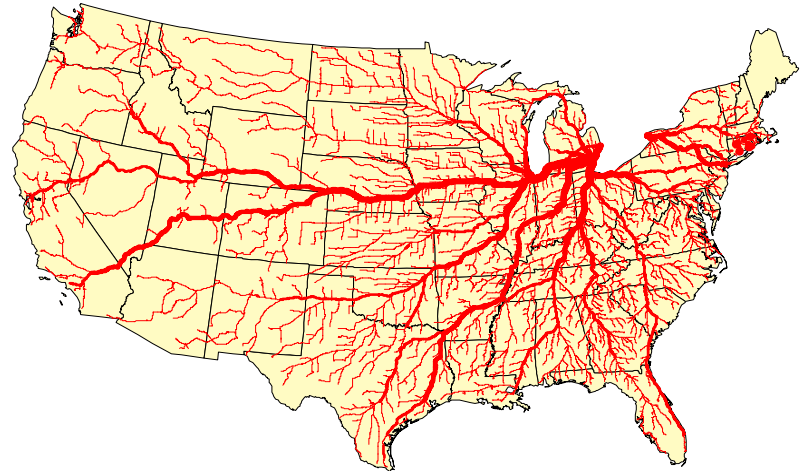
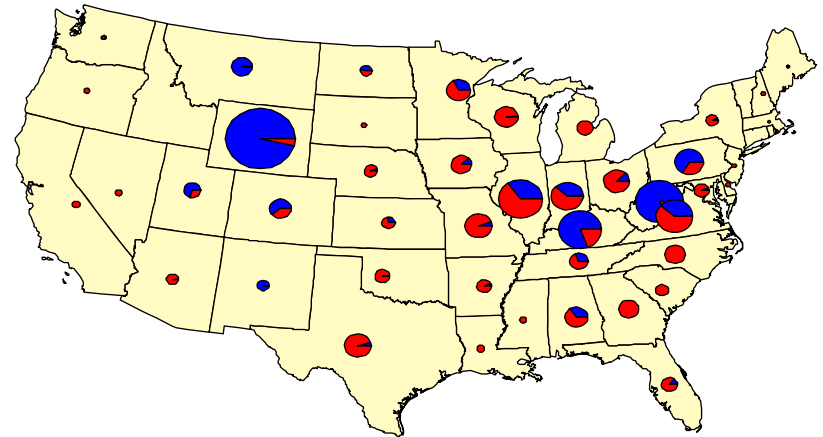
# Purpose of KY CIMS

- Evaluate demands on infrastructure
- Analyze multiple modes concurrently
- Identify modal deficiencies
- Identify intermodal opportunities



# Freight Analysis Procedures

- Map productions and attractions
- Identify zonal movement
- Network loading
- Corridor analysis
- Select link analysis



# CIMS: Technologies & Data

- Combines multiple technologies to meet analysis goals



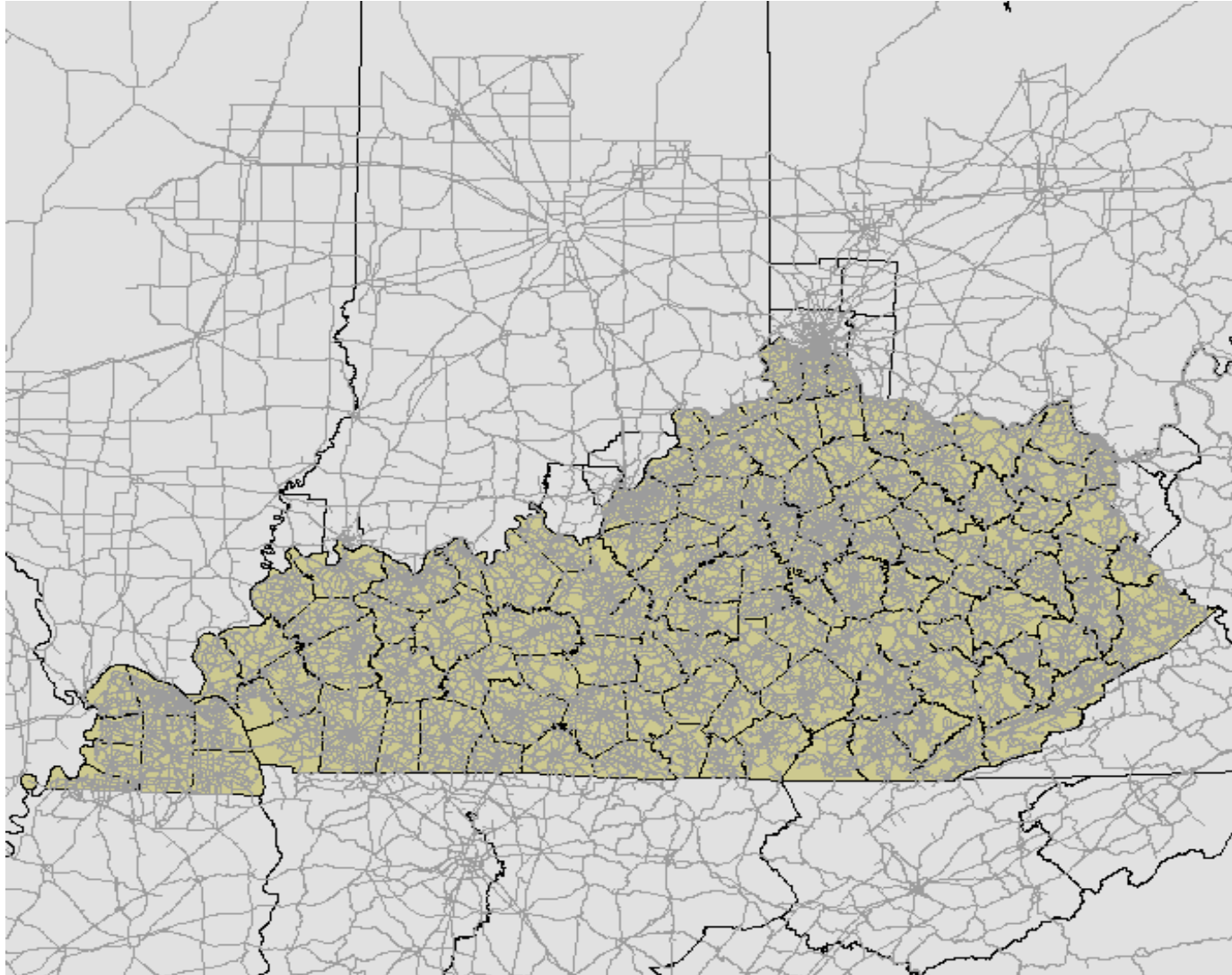
**Commodity Flows (TRANSEARCH)**

**Travel Demand Modeling**

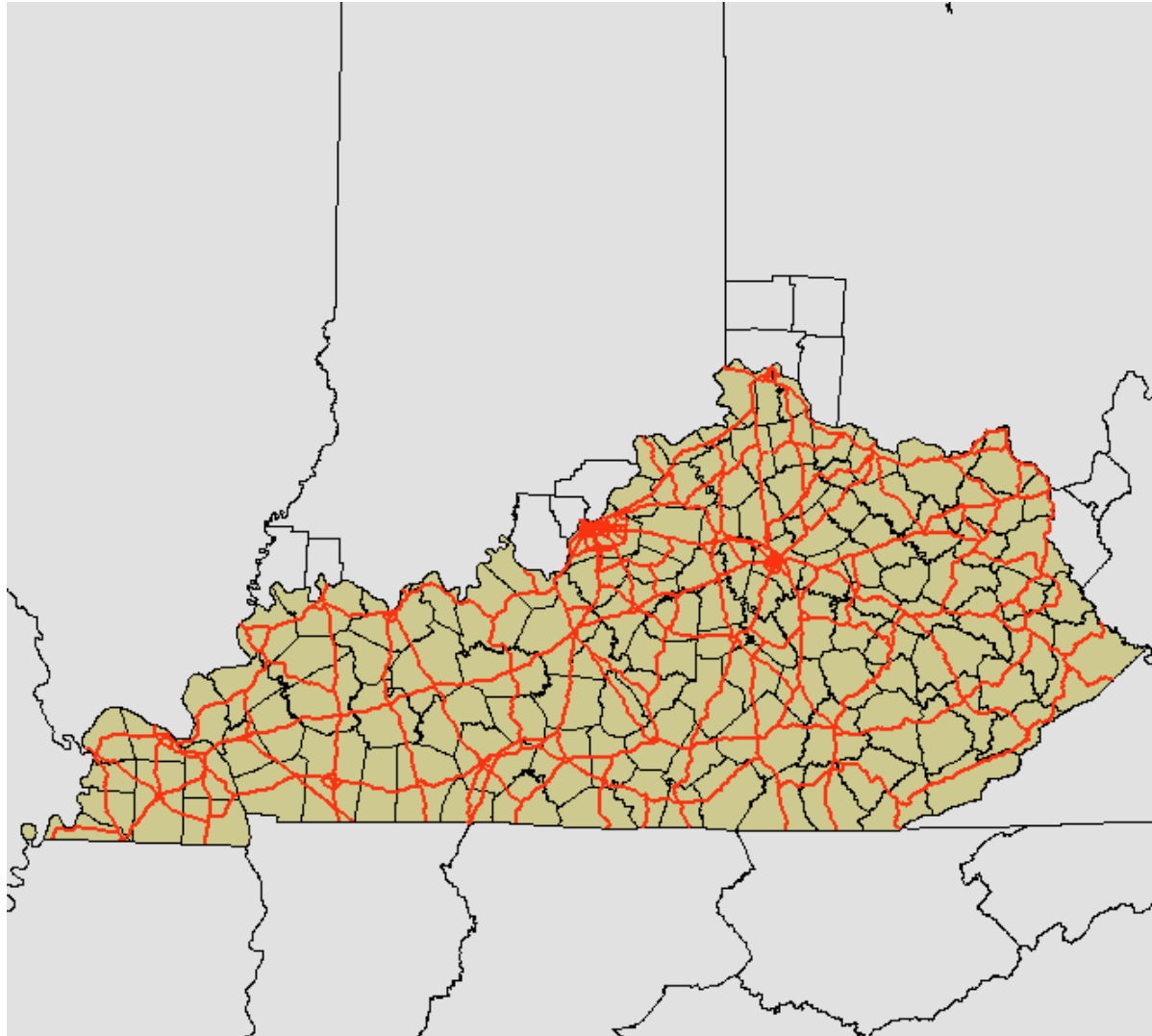
**Economic Impacts**

**Geographic Information Systems**

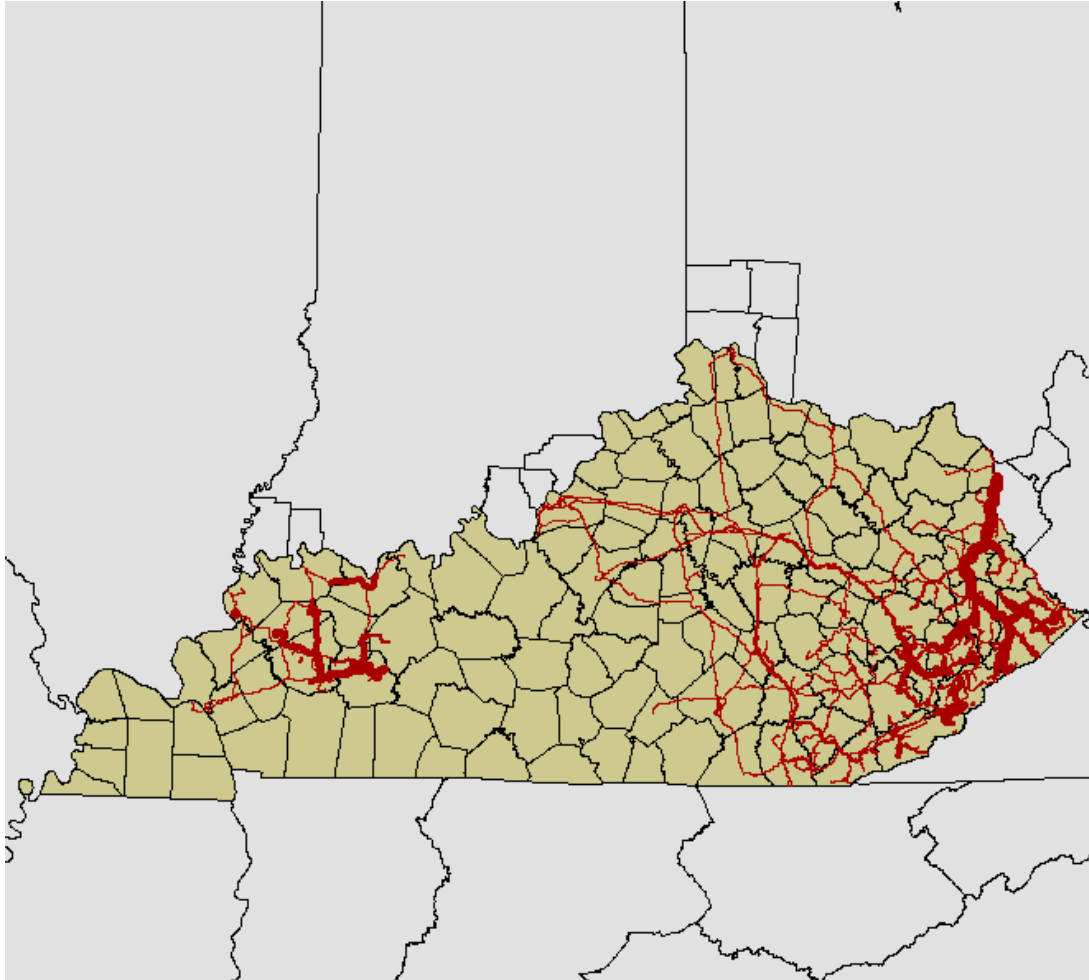
# Data: Highways



# Data: Backbone Highways

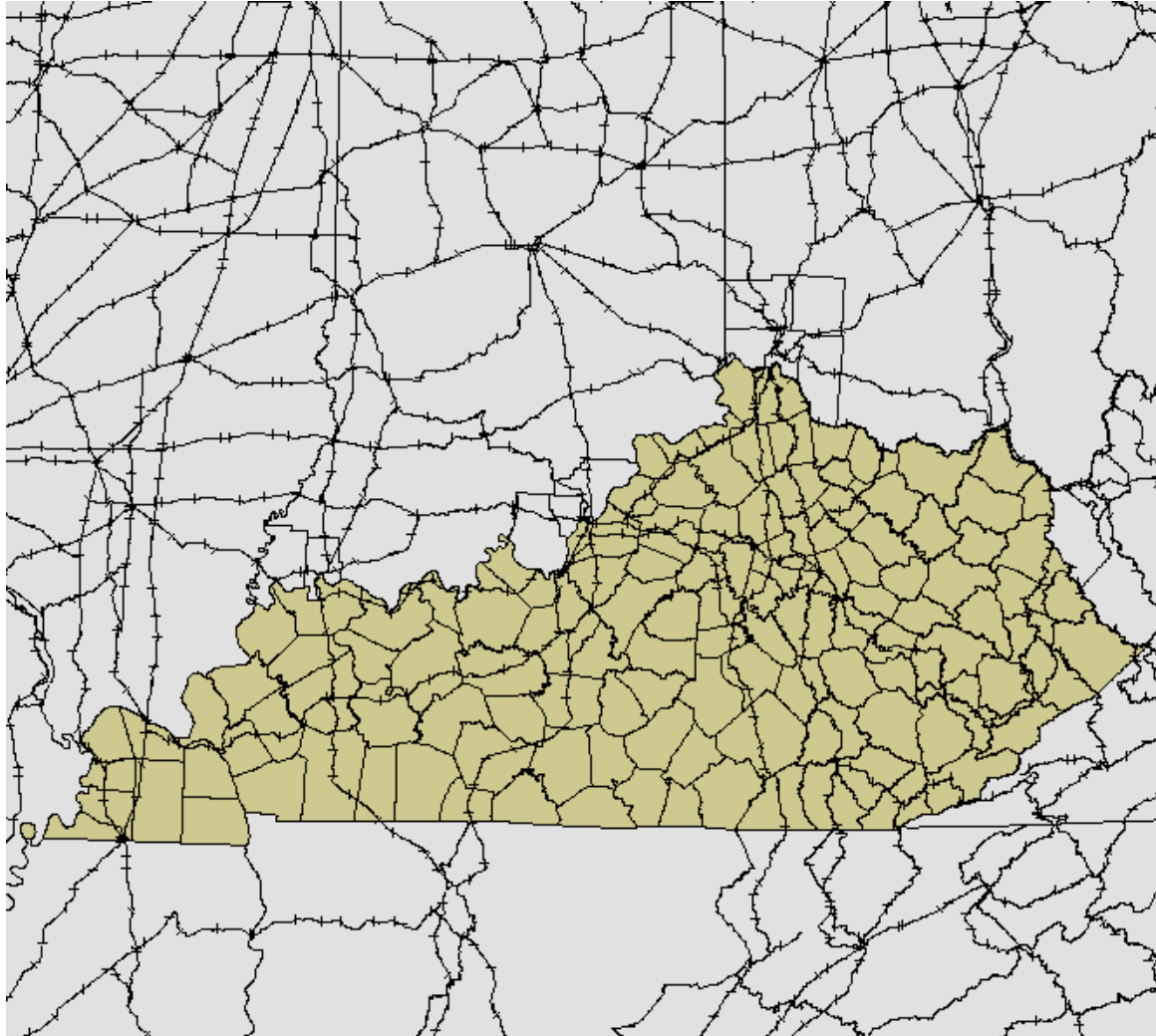


# Data: Coal Haul Highways

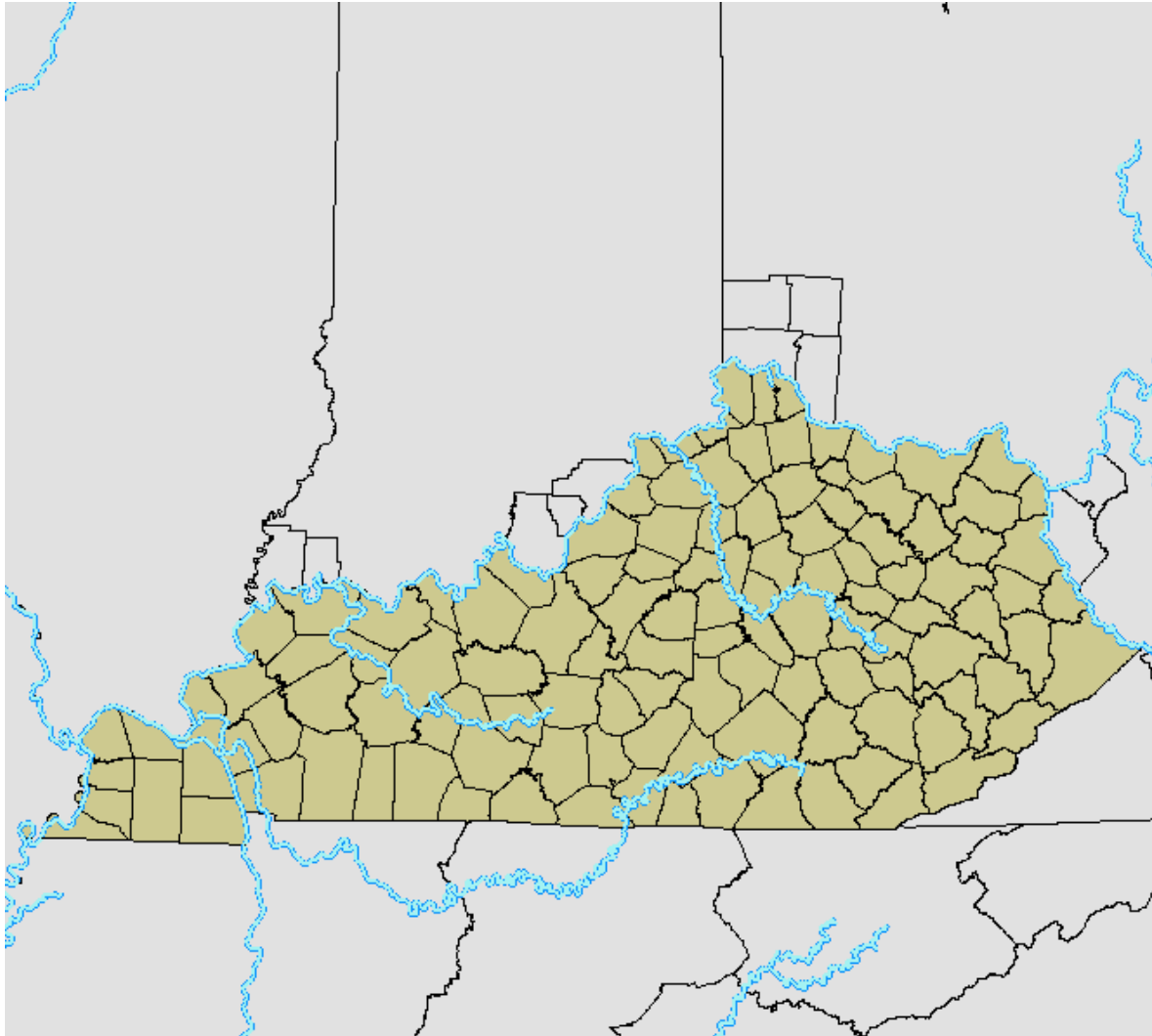




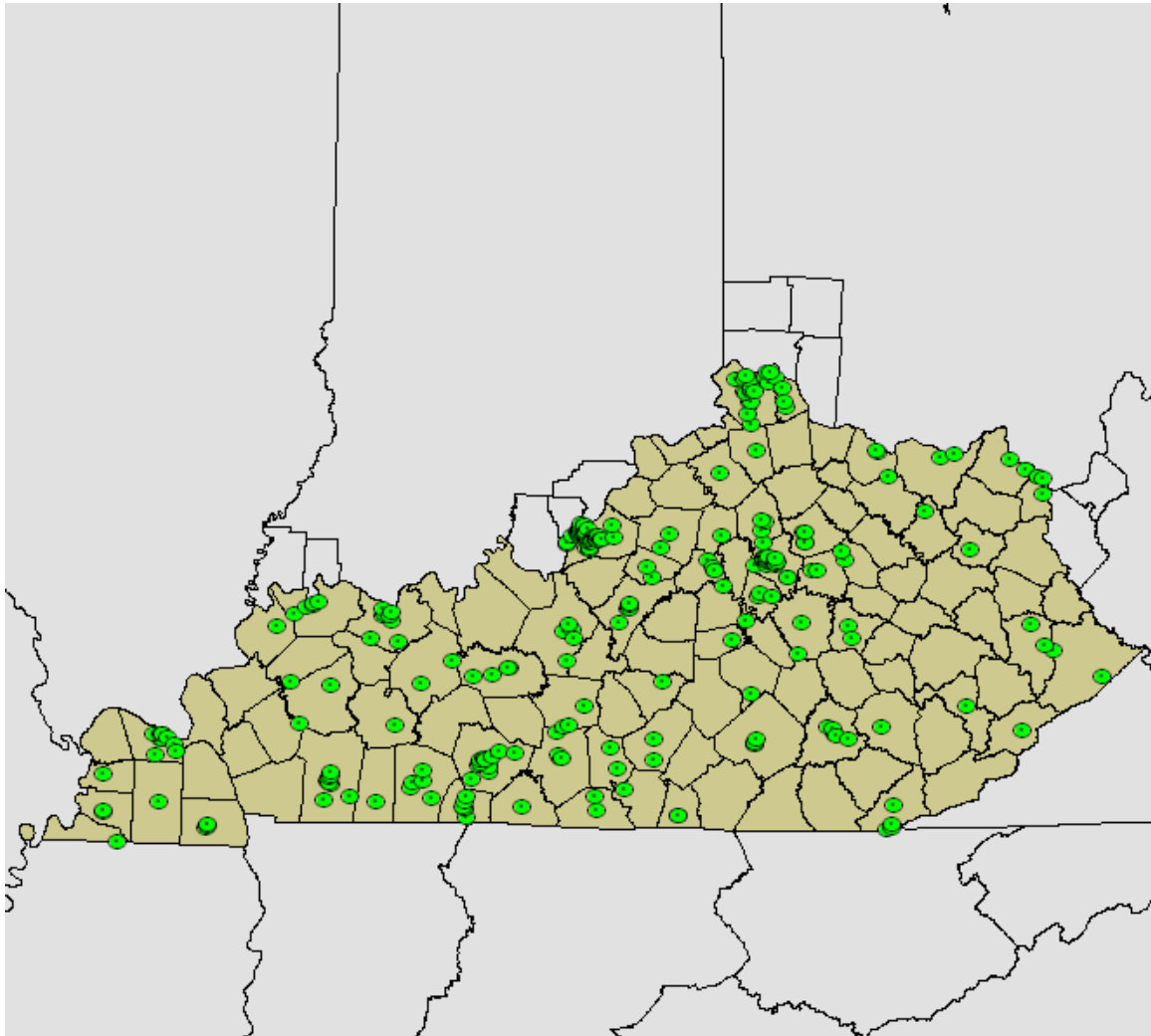
# Data: Rail Network



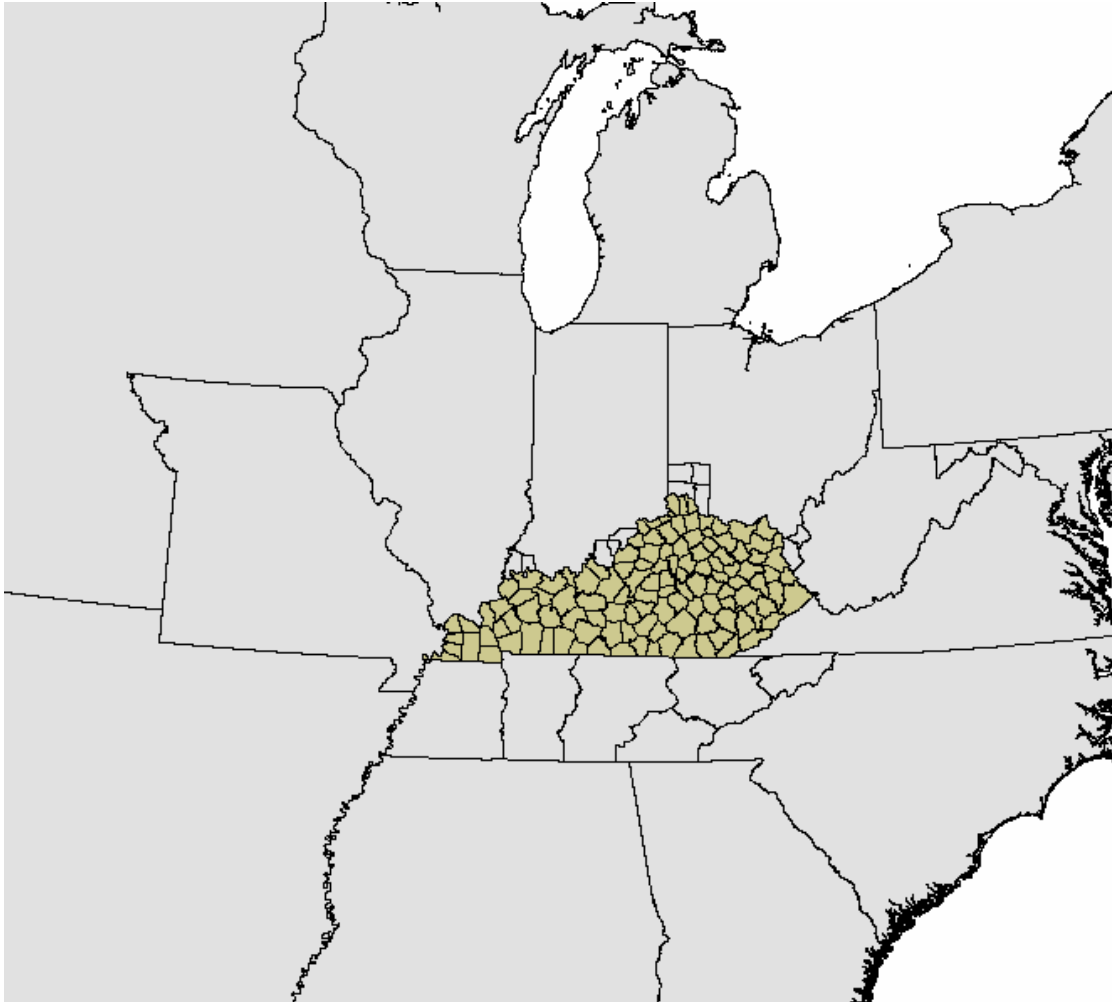
# Data: Waterways



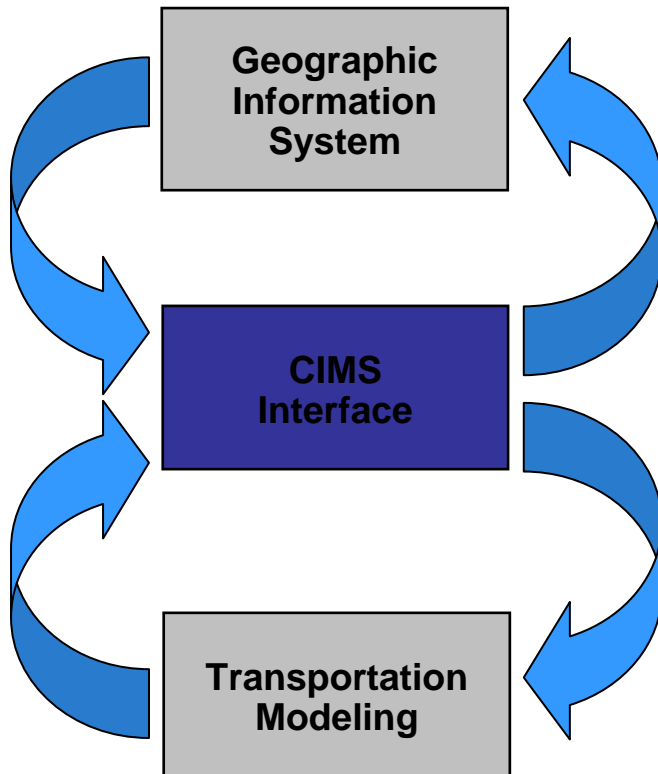
# Data: Intermodal Locations



# Data: Transearch Regions



# Seamless Model Integration



- Interface Between GIS and Travel Demand Modeling Software
- Modeling Professionals Ensure Accuracy
- Simplified Queries Available to Non-Modelers

# Scenario Manager

## Allows Cataloging of CIMS Model Runs

COMMODITY INFORMATION MANAGEMENT SYSTEM

### Scenario Manager

Database Management Tools

Create New Scenario

Edit Current Scenario

Erase Scenarios

Scenario Functions

VechCalc

Modeling

Maps

Reports

Other Tools

MASTER Database

System Utilities

Scenario Selector

INTERNAL	Internal Truck	4/6/2007
MASTER	This Scenario contains the original/ current conditions and information. DO NO: 3/12/2007	

Current Scenario:

INTERNAL

Scenario Year:

2003

Last Update:

4/6/2007

Description:

Internal Truck

WilburSmith  
ASSOCIATES

# Scenario Creation

Provides Intuitive Query System for Freight Data

Scenario Builder

NEW SCENARIO CREATION

Select the Modes, Commodities, Origins and Destinations to include in the Scenario by tagging the appropriate Records.

MODES

<input type="checkbox"/>	1	TRUCK
<input type="checkbox"/>	2	AIR
<input type="checkbox"/>	3	WATER
<input type="checkbox"/>	4	RAIL

Select AllUnselect AllToggle Select

# of current selection: 0

COMMODITIES

<input type="checkbox"/>	01	Farm Products
<input type="checkbox"/>	08	Forest Products
<input type="checkbox"/>	09	Fresh Fish Or Marine Products
<input type="checkbox"/>	10	Metallic Ores
<input type="checkbox"/>	11	Coal
<input type="checkbox"/>	13	Crude Petrol, Or Natural Gas
<input type="checkbox"/>	14	Nonmetallic Minerals
<input type="checkbox"/>	19	Ordinance Or Accessories
<input type="checkbox"/>	20	Food Or Kindred Products
<input type="checkbox"/>	21	Tobacco Products

Select AllUnselect AllToggle Select

# of current selection: 0

ORIGIN REGIONS

<input type="checkbox"/>	17000	ILLINOIS
<input type="checkbox"/>	18000	INDIANA
<input type="checkbox"/>	18019	IN Clark County (NALB)
<input type="checkbox"/>	18043	IN Floyd County (NALB)
<input type="checkbox"/>	18061	IN Harrison County (NALB)
<input type="checkbox"/>	18129	IN Posey County (EVL)
<input type="checkbox"/>	18163	IN Vanderburgh County (EVL)
<input type="checkbox"/>	21001	Adair County
<input type="checkbox"/>	21003	Allen County
<input type="checkbox"/>	21005	Anderson County

AllNoneToggleInternalExternal

# of current selection: 0

DESTINATION REGIONS

<input type="checkbox"/>	17000	ILLINOIS
<input type="checkbox"/>	18000	INDIANA
<input type="checkbox"/>	18019	IN Clark County (NALB)
<input type="checkbox"/>	18043	IN Floyd County (NALB)
<input type="checkbox"/>	18061	IN Harrison County (NALB)
<input type="checkbox"/>	18129	IN Posey County (EVL)
<input type="checkbox"/>	18163	IN Vanderburgh County (EVL)
<input type="checkbox"/>	21001	Adair County
<input type="checkbox"/>	21003	Allen County
<input type="checkbox"/>	21005	Anderson County

AllNoneToggleInternalExternal

# of current selection: 0

Scenario Name:

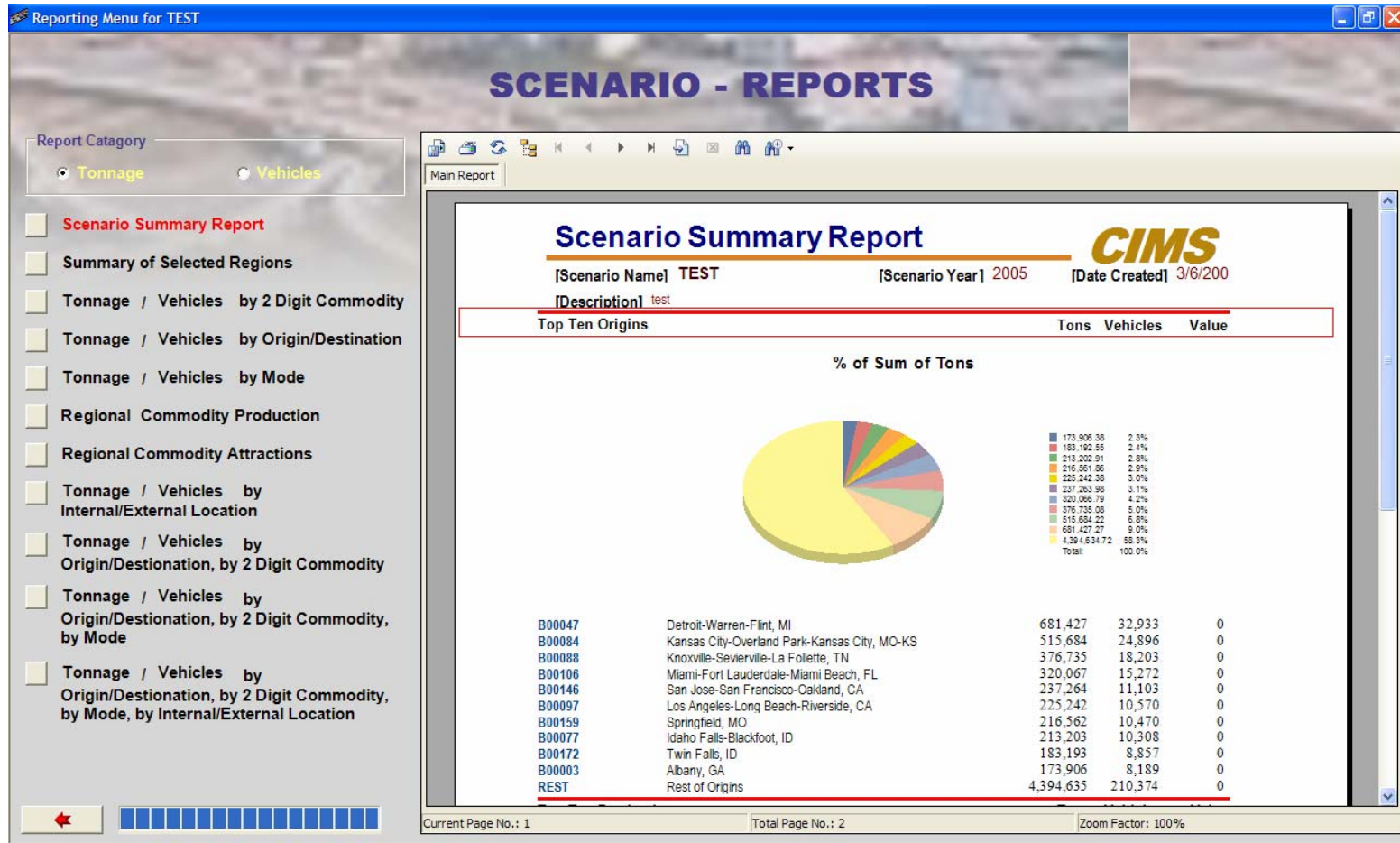
Year:

Choose A Year

Description:

Create

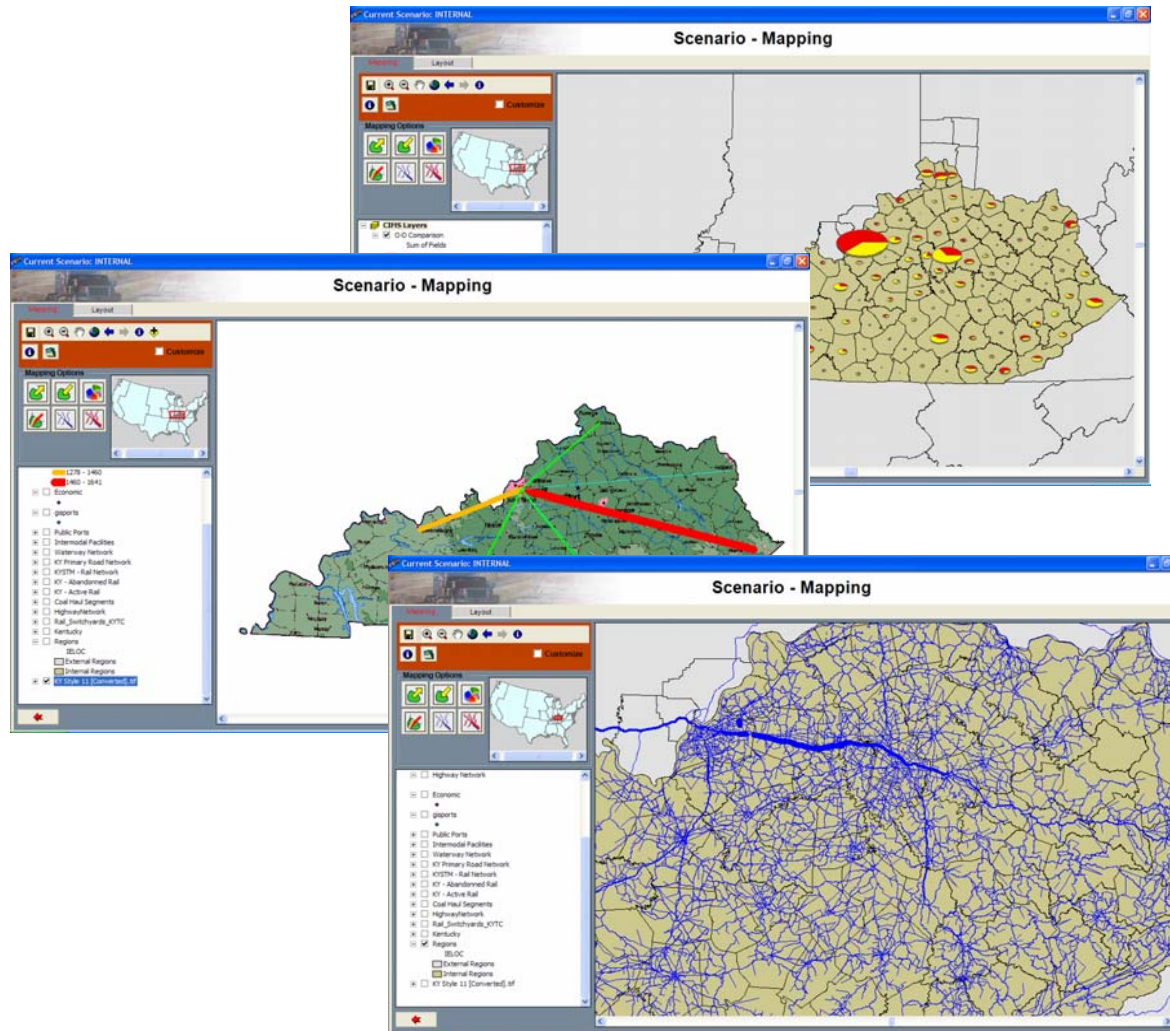
# Sample Report





# Integrated Mapping/GIS

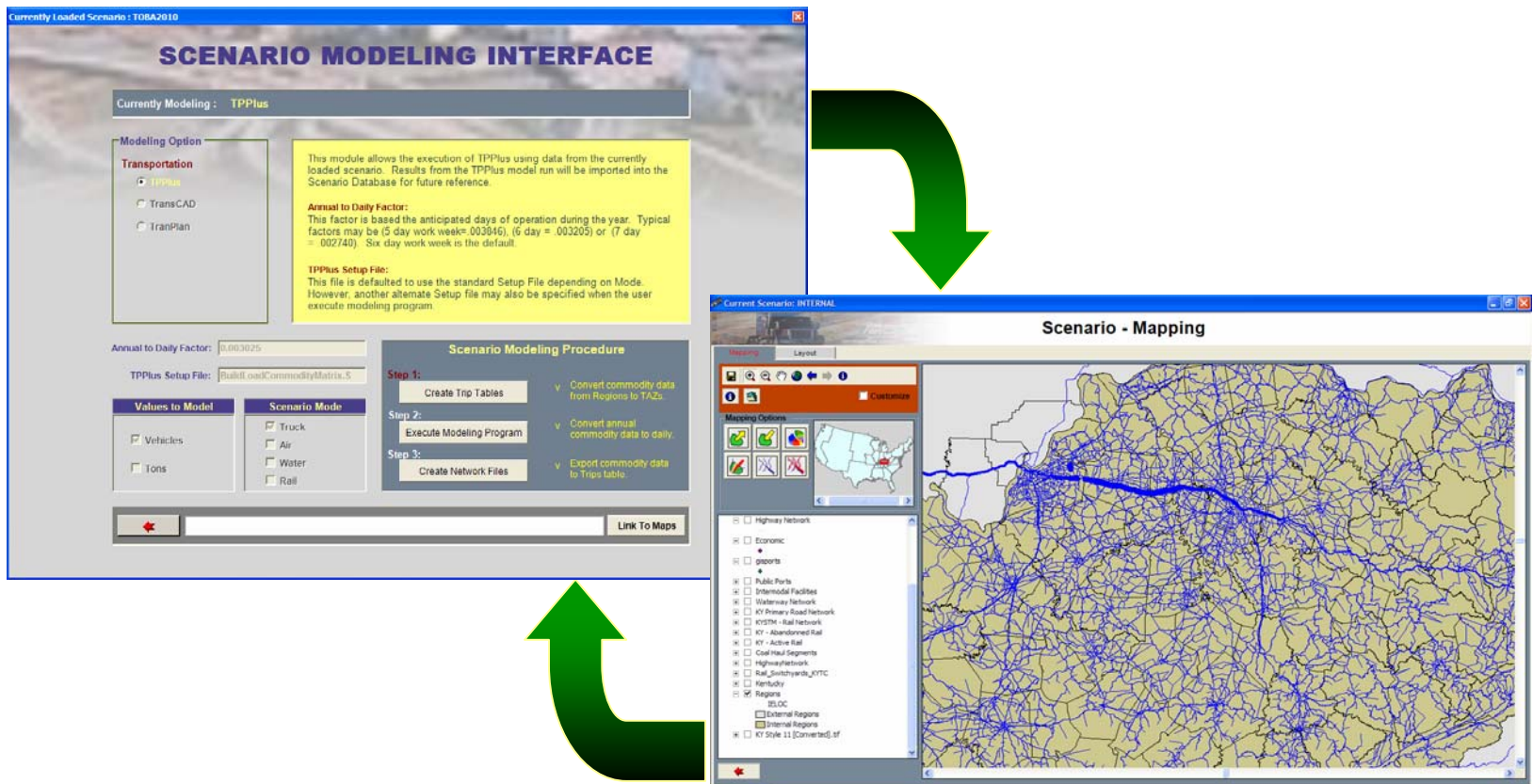
View and Analyze Scenario Modeling Results



- Productions/Attractions
- Zonal Movements
- Network Flows

# Freight Transport Modeling

Sends Scenario Data to calibrated Travel Demand Models  
for Network Analysis



# Capacity Issues

- Standard GIS Routing Techniques
  - Simply Sum Route Flows
  - Procedures are not readily available to re-allocate trip distribution when capacity is exceeded on network links
- Transportation Models are Designed to Handle Capacity Restraints

# Kentucky CIMS

## Functions – Vehicle Comparison

Scenario Name: INTERNAL

### SCENARIO - VEHICLE CONVERSION FACTORS

☐ Mode Codes  
☐ Commodity Codes (2 Digit)  
☐ Commodity Codes (4 Digit)  
☐ Region Codes  
☐ Commodity Flow Data  
**Vehicle Conversion Factors**

The information contained in this table represents conversion factors that estimate the number of vehicle trips for each mode by commodity code.

STCC	DESCRIPTION	TRUCK	RAIL	AIR	SHIP
01	Farm Products	25	(null)	(null)	(null)
09	Fresh Fish or Marine Product	16.8	(null)	(null)	(null)
10	Metallic Ores	26	(null)	(null)	(null)
11	Coal	26	(null)	(null)	(null)
13	Crude Petrol. Or Natural Gas	20	(null)	(null)	(null)
14	Nonmetallic Minerals	26.5	(null)	(null)	(null)
19	Ordnance Or Accessories	20	(null)	(null)	(null)
20	Food Or Kindred Products	27.2	(null)	(null)	(null)
21	Tobacco Products	22.5	(null)	(null)	(null)
22	Textile Mill Products	22.2	(null)	(null)	(null)
23	Apparel Or Related Products	19	(null)	(null)	(null)
24	Lumber Or Wood Products	27.8	(null)	(null)	(null)
25	Furniture Or Fixtures	15.5	(null)	(null)	(null)
26	Pulp,Paper Or Allied Products	26	(null)	(null)	(null)
27	Printed Matter	19.4	(null)	(null)	(null)
28	Chemicals Or Allied Products	28	(null)	(null)	(null)
29	Petroleum Or Coal Products	28.4	(null)	(null)	(null)
30	Rubber Or Misc Plastics	21	(null)	(null)	(null)
31	Leather Or Leather Products	14.8	(null)	(null)	(null)
32	Clay,Concrete,Glass Or Stone	29.5	(null)	(null)	(null)
33	Primary Metal Products	27	(null)	(null)	(null)
34	Fabricated Metal Products	19.3	(null)	(null)	(null)
35	Machinery	17.8	(null)	(null)	(null)
36	Electrical Equipment	17.5	(null)	(null)	(null)
37	Transportation Equipment	20.9	(null)	(null)	(null)
38	Instrum. Photo Equipment, Optical Eq	17.9	(null)	(null)	(null)
39	Misc Manufacturing Products	19.8	(null)	(null)	(null)

Accept Cancel Clean

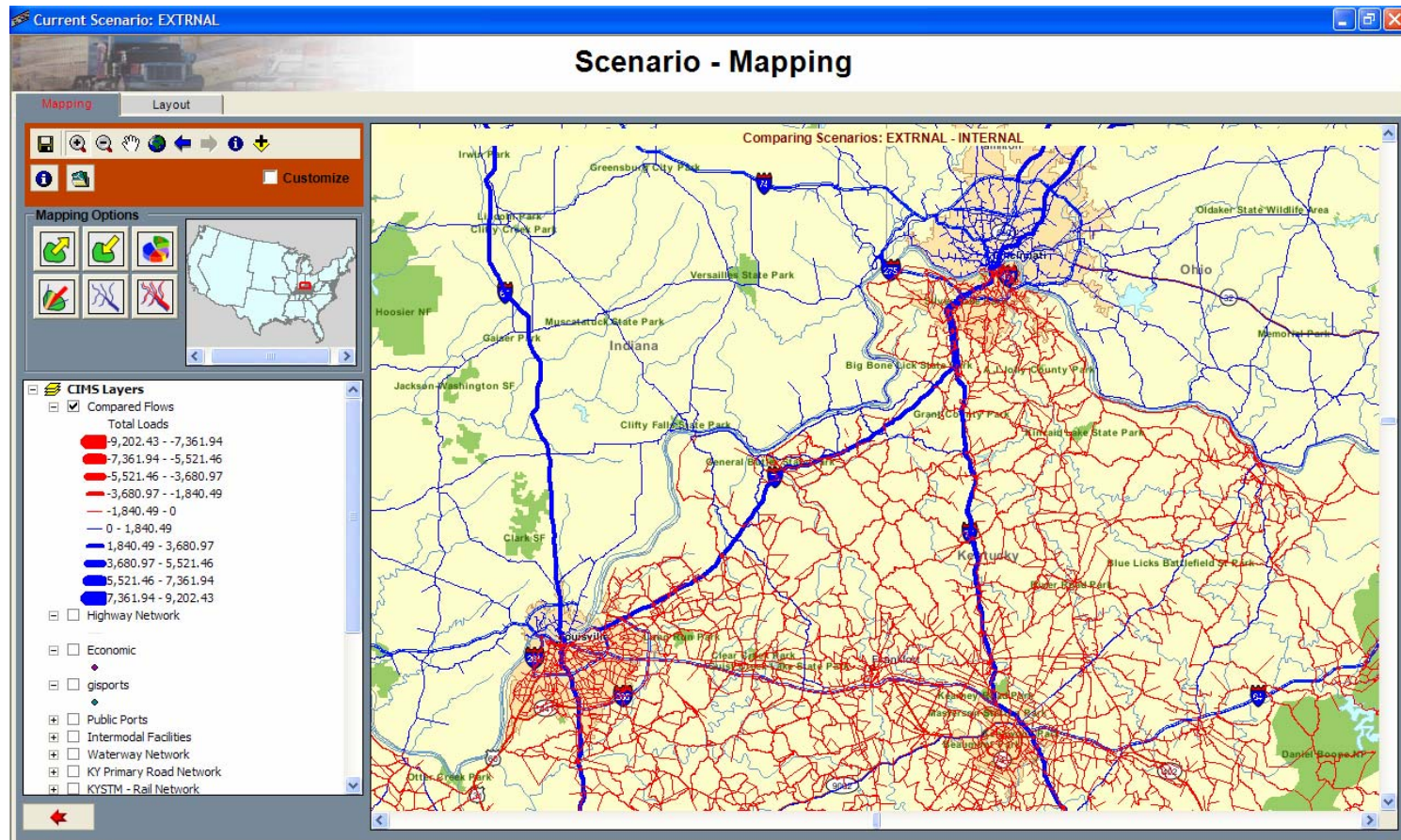
# of data records: 32

Editing Row



# Kentucky CIMS

## Functions – Network Comparison



# Benefits

- Useful to non-GIS professionals
- More effective network analysis
- Scenarios easily shared with Enterprise GIS
- Multimodal demand/opportunities analysis

# KY CIMS: Next Generation

- Rail & waterway assignments
- Validation of Transearch data
- Other – audience?
- Costs
  - more detailed Transearch data
  - Modeling of rail & waterways

# Questions

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- Jill Asher
  - [Jill.asher@ky.gov](mailto:Jill.asher@ky.gov)

